## REMARKS

Claims 1-32 remain pending in this patent application.

### OBJECTIONS TO CLAIMS

In this paper, Applicant has made editorial changes to claim 10 to obviate the objections of the Examiner.

### OBJECTIONS TO SPECIFICATION

In this paper, Applicant has made amendments to pages 6 and 21 of the specification in accordance with the Examiner's suggestions. Applicant submits that the Examiner's objections to the specification have been obviated by these amendments.

### PRIOR ART REJECTION

Claims 1-32 were rejected under 35 USC § 102(e) as being anticipated by US 6859931 B1 Cheyer et al.). Applicant respectfully traverses this rejection.

The system and method of the present invention seeks to solve problems in computing based on meanings of the everyday language by employing existing resources of software and hardware. Thus, a principal feature of the present invention resides in a communication system that understands the meaning of the language text (everyday language) and uses the everyday language as it is. A fundamental task of Applicant's system is not to perform a communication between agents.

The Examiner characterizes the Cheyer et al. invention as "an everyday language-based computing system comprising a language computer for processing a language text described or dictated by an everyday language." Applicant has carefully reviewed the Cheyer et al. disclosure and finds, to the contrary, that the invention disclosed by Cheyer et at does not relate to a natural language process. Rather, Cheyer et al. employ a multi-agent through a communication between distributed agents. The natural language is translated as an intermediate language for communication by means of a general natural language process (which is different from Applicant's process). The intermediate language is totally different from the language used by Applicants for communication.

In several respects, the system and method disclosed by Applicant differ significantly from the system disclosed by Cheyer et al.

To understanding meaning. a database is required that describes a context together with a language model of the same structure as that of a language system in a brain of a human. Such a database is referred to as "semiotic base." Such a database is significantly different from a dictionary that is used in a general natural language process, although the semiotic base naturally has such a general dictionary. The understanding of meaning is executed by using the semiotic database. Specifying a meaning and making a phrase representing the meaning, i.e., text generation, is executed by also using this database. In addition, understanding and generating text by using this base respectively correspond to reception and transmission of communication by using the everyday language. This concept is neither described or suggested by Cheyer et aI.

The language for communication employed by the present invention is constituted by adding to an "everyday language" all the verbal features of the everyday language as information. The system of the present invention can use the everyday language, which varies in accordance with region, sex. age, and profession. The everyday language is different from the common languages or a so-called natural language.

Cheyer et al. employs a natural language process that executes, as a grammatical process, analyses of morphemes and modification relations by using a dictionary. The conventional natural language process executes, as a meaning process, identification of literal meanings and identification of a speech function. These operations can be done by anyone with using existing software.

In contrast to a system such as that employed by Cheyer et al. the system of the present invention incorporates as a database a model of language system that is constituted based on linguistics. The model covers situations, meanings, and lexico-grammars. The semiotic base is composed of a "lexico-grammar base" for holding lexico-grammatical features, a "semantic base" for holding semantic features, and a "context base" for holding context features. Applicant's invention has a mechanism that, properly, effectively uses resources of the bases under realization statements as constraining conditions describing relationships in each base and between the bases (specification, page 37, Fig. 20). These features are not disclosed or suggested

by Cheyer et aI. and are novel. In Applicant's system, the base for holding lexico-grammatical features is not a mere grammar such as morphemes and word classes (page 32, line 33, "2.2.1.3 Client Lexico-Grammar Basel', Fig. 6). The base for holding semantic features linguistically describes features of meanings of a human linguistic system that surpasses the speech function of Cheyer et al. (page 33. line 29, "2.2.1.4 Client Meaning Base", Fig. 6). In the Cheyer et al. system, general meanings of words are written in a dictionary like one associated with the semiotic base of Applicant's system. The base for holding context features is composed of a situation type which is characterized by FTM: (Field: what is going on, Tenor: who are participating, Mode: what channels are used - written language, spoken language. image, etc.). a genre structure in the situation type, knowledge written in a language peculiar to the situation type, and a corpus (page 36. line 3, "2.2.1.5 Client Situation Base"; page 38, line 5, "2.2.1.6 Client Corpus"). In addition, a lexical dictionary depending on a situation is attached to the base.

Understanding of meaning in Applicant's system and method does not mean an identification of speech function, whether it is a request or interrogation, or an identification of literal meaning of a word, by using an analysis of morphemes, analysis of modification relationships, and a dictionary. Processes such as these are nothing more than a pre-process of Applicant's "understanding of meaning". The meaning process based on a result of a lexico-grammatical process and a context analysis, which is subsequent to the pre-process, is significantly novel (page 40, line 29, "2.2.2.2 Understanding of Meaning of Language Text", Figs. 16 and 17). Generating text in Applicant's invention is not a process for generating a speech function and a series of literal words, but is a process for generating an everyday language text, based on contexts, meanings, and lexico-grammatical resources stored in the semiotic base, and constraining conditions given by the realization statements. This process is totally different from the generation process disclosed by Cheyer et al. (page 46, line 11, "2.2.2.3 Generation of Language Text", Figs. 22 to 24).

Although the corpus is used by Cheyer, the system according to Applicant's invention understands the meaning of corpus in advance, in order to utilize the meaning of corpus, and imparts to the corpus the lexico-grammatical features, semantic features, situation features. None of these exists in the process disclosed by Cheyer et at.

The semiotic base holding language resources has systems based on a situation, meaning, and lexico-grammar (situation base, semantic base, lexico-graUlmatica1 base). Ranges of use of a meaning and a lexico-grammar are identified on the basis of a type of a certain situation (depending on values ofF, T, and M). The systems are utilized as resources for generating an everyday language as a communication protocol, and resources for interpreting the received. everyday language. On the other hand, the situation, meaning, and grammar disclosed by Cheyer et al. are rendered partially or fragmentally and are not systemized. Applicant's system realizes an efficient communication process (information process) by means of a constraint for use due to the systemization. There is no such systemization in the invention of Cheyer et at.

Applicant's invention uses an everyday language itself as a communication protocol to communicate with various communication objects. On the other hand, Cheyer et al. makes a specific agent understand a natural language to convert it into a specific communication language called ICL, to be used by the agent for communication so as to communicate with other agents. Since Applicant's system utilizes the everyday language as a communication protocol, the semiotic base holding language resources is used to generate a text (everyday language), and the generated text is sent to the communication object to achieve a communication. That is, Applicant's system does not use an intermediate language to achieve a communication. Instead, linguistic features of a natural language obtained by understanding a meaning are imparted to the natural language. Since the invention of Cheyer et al. merely performs a natural language process, no linguistic features similar to Applicant's are imparted to the text.

Information included in Applicant's communication protocol handles all the linguistic features (judged from the system of semiotic base) of the text (everyday language), which is sent and received (Fig. 28). The system disclosed by applicant's carries out a process with the use of the detailed, abundant linguistic features. As compared with Applicant's communication protocol, less information is used in the invention of Cheyer et al. Applicant's process and the process of Cheyer et al. are different from each other because of the use of the different communication protocols.

The communication technique employed by Applicant, in which resources are subjected to a process to obtain the communication protocol as described above, is not used by Cheyer et al.

The system proposed by Cheyer et al. is a. system in which a communication is executed between various agents present in a distributed environment. On the other hand, the Applicant's system is a virtual operating system as a middleware that is operated on an existing OS by using an everyday language as communication means. Resources (files, applications, etc.) in a computer are also operated through the everyday language.

*Cheyer et al. vis-à- vis claim 1*

In the system of Cheyer et al., when a natural language is input, the information is sent to an agent capable of understanding the information to make a request of the agent for interpretation of the information, which is then converted to one of the communication languages between agents that is called ICL. On the other hand, in Applicant's system, a communication by utilizing an everyday language as a communication language does not require adopting a specific agent (a task of which is to understand a natural language, as discussed above). Rather, communication is carried out through an interface that is owned by each of communication objects. That is, the natural language itself is used as a language common to the various communication objects. Applicant's invention does not covert the natural language to a specific communication language such as ICL.

*Cheyer et al. vis-à- vis claim 21*

Applicant's claimed invention comprises a network computing system using a language text (language communication protocol) as communication medium, which is fundamentally different from the invention of Cheyer et aL

*Cheyer et al. vis-à- vis claim 28*

Applicant's claimed method includes referring to a semiotic base, a lexico-grammar base and a semantic base and also referring to an electronic dictionary to carry out a parsing. As recited in claim 28, the lexico-grammar base can systematically hold a plurality of lexico-grammatical features of a language and a plurality of semantic roles corresponding thereto, and

the semantic base can systematically hold a plurality of semantic features of a language and a plurality of semantic roles corresponding thereto. As discussed above, the system disclosed by Cheyer et al. cannot carry out the method recited in claim 28.

*Cheyer et al. vis-à- vis claim 30*

Applicant's claimed method includes referring to a situation base and a meaning base to identify a global plan template which is relevant to a generic structure of text corresponding to a situation type during generation of a language text, referring to the meaning base to prepare a local plan on the basis of the identified global plan template and a predefined semantic feature and generating a language text on the basis of the prepared local plan and the examples of the language texts held in the corpus. As is made evident by the discussion above, the Cheyer et al. system cannot carry out the claimed method.

In view of the foregoing discussion, Applicant submits that the disclosure in Cheyer et al. cannot properly serve as a basis for rejecting any of the independent claims 1, 21, 28 and 30 under 35 USC § 102(e).

The patentability of the independent claims obviously inheres in the claims that depend from them. The dependent claims are, moreover, patentable by virtue of additional limitations that they recite. The disclosure in Cheyer et al. cannot, for example, meet the requirements for the bases as recited in claims 2-7 and 12, cannot meet the requirements for a language operating system as recited in claims 8-11 and 13-18, cannot meet the requirement for a language resource as recited in claim 20

OTHER PRIOR ART

Applicant has considered the other prior art cited by the Examiner. Applicant is not commenting on this prior art, because it was not applied against the claims in this application.

## CONCLUSION

In view of the observations and arguments presented herein, Applicant respectfully requests that the Examiner reconsider and withdraw the objections and the rejection stated in the outstanding Office Action and recognize all of the pending claims as allowable.

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